

 **logic**TM IN-VEHICLE
CHARGER



Intelligent Charging

*FOR LEVCA MODELS DESIGNED TO CHARGE
LI-ION / LIPO TWO-WAY RADIO BATTERIES*

User Manual

Introduction

Thank you for purchasing a Logic in-vehicle charger (LEVCA). This ultra-rugged product features intelligent charging and is designed for rapid charging two-way radio batteries from a 12V - 24V source in a vehicle, trailer, or train. LEVCA models are radio specific and provide a precision fit with the battery. The model you have purchased is chemistry specific and will charge **Li-Ion** or **LiPo** batteries only. The label on the front of the LEVCA confirms the battery chemistries this model is designed to charge. If you have questions about your LEVCA model, contact your Power Products dealer or call **800-529-1618**.

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Important

1. Read all Caution statements below and this User Manual before attempting to install the LEVCA or charge a battery.
2. Check to make sure the LEVCA model is compatible with your radio battery and battery chemistry before installing.
3. Always charge new batteries completely before initial use. Recycle batteries when they can no longer be used.

Caution

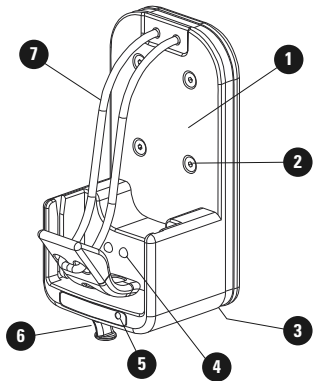
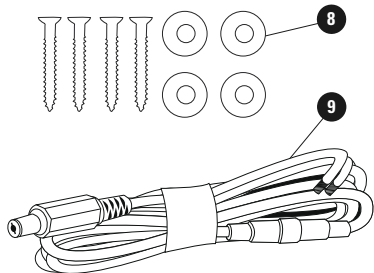
1. Do not charge a battery unless it is designed with overcharge protection.
2. Do not discard unwanted batteries in the trash or incinerate. Batteries exposed to fire or excessive heat may explode.

Caution (continued)

3. Install the LEVCA where it will be protected from rain or moisture.
4. Make sure contacts on the radio holder and battery are clean. Do not allow wire or metal objects to touch the contacts.
5. Do not open or make any modifications to the LEVCA. Use only the DC power cable supplied.
6. Always secure the radio (or battery) in the radio holder with the tie-down strap before the vehicle, trailer, or train goes in motion.
7. Make sure that the tie-down strap securely holds the radio or battery, but is not too tight. An over-tensioned strap could cause injury when released.

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LEVCA Features



LEVCA Features

1. Integrated radio holder and charging electronics.
2. Holes for fastening to dash or mounting bracket (see Optional Accessories).
3. Connection point for DC power cable.
4. *Alpha contact™* for reliable battery charging.
5. Status LED (orange, red, green).
6. Hook for connecting tie-down strap.
7. Tie-down strap.
8. Screws and spacers for fastening LEVCA to vehicle.
9. DC power cable with locking connector plug.

Installation

Before installing the LEVCA, confirm that the model is compatible with the radio battery you want to charge and the battery's chemistry.

1. Select an area in the vehicle to mount the charger. The LEVCA's compact size allows it to be installed in areas where other in-vehicle chargers will not fit.
2. Run the DC power cable from the charger and connect it to the vehicle's 12V or 24V source. Fully insert the DC cable plug into the connection point on the bottom of the charger, then rotate the plug slightly to lock it in place.
3. Place the battery in the charger to confirm it will properly charge. If there are no issues, fasten the charger to the vehicle and secure the power cable.

Installation (continued)

4. Use the 4 screws provided to fasten the LEVCA to the dash or wall of your vehicle. Place a rubber spacers over each screw on the back side of the charger to help stabilize the unit.
5. The tie down strap is properly sized to secure the radio in the charger. Place the elastic cord over the top of the radio and attach the plastic clip to the retaining hook. When charging a battery only, the tie-down strap can be made tighter by sliding the plastic clip up slightly and pulling the looped end of the elastic strap over the retaining hook.

Charging A Battery

A battery may be charged while on or off the radio. Always use the tie-down strap to secure the radio or battery before your vehicle is driven.

1. After the LEVCA is installed, switch vehicle power on and place a battery in the charger. The status LED will illuminate ORANGE briefly, then RED continuously to indicate normal charging.
2. If the charge status LED is RED and flashes, a fault has been detected. The flash pattern represents a specific fault condition. See Fault Conditions for details.
3. When the battery is charged to 80% of capacity, the charge status LED will

Charging A Battery (continued)

change to GREEN and flash. The charge status LED will illuminate GREEN with no flashing when the battery is fully charged.

4. A fully charged battery may be left in the LEVCA and a full charge will be maintained. This maintenance feature will not damage the battery.
5. The LEVCA will charge a battery when its temperature is between 0°C and 45°C. When a battery's temperature is outside this range, the LEVCA will monitor the temperature and resume charging once the battery temperature is within the 0°C to 45°C range.

Status LED Summary

LED Color	Status
Solid ORANGE	Diagnostic stage - LED illuminates briefly when battery is inserted.
Flashing ORANGE	Battery cannot be charged because: (1) temperature is below 0°C (32°F) or above 45°C (113°F), or (2) chemistry is not compatible with charger.
Solid RED	Normal battery charging.
Flashing RED	See Fault Conditions.
Flashing GREEN	Battery charge level approximately 80%.
Solid GREEN	Battery fully charged and in maintenance mode.

Fault Conditions

Flash Pattern (RED)	Fault Type
1 Time	Charging is complete, but battery is under charged. Battery voltage is below the minimum level required.
2 Times	Battery contact is 'open' and current is not passing through the positive and negative terminals of the battery. Check compatibility of the battery.
3 Times	Over current condition caused by battery short circuit. Charging immediately terminates.

Specifications

Compatible Battery Chemistries	Li-Ion / LiPo (7.2V-10.8V)
Operating Temperature	0°C - 45°C / 32°C - 113°C
Charger Input	10V - 30V DC @ 1.0A (minimum)
Charge Rate	Up to 1000 mA
DC Power Cable	16AWG / 3A in-line fuse / 3.0m (9.8')
Charger Contacts	High impact and vibration tolerant <i>alpha contact™</i>
Contact Cycle Life	Minimum 20,000
Weight	245g / 0.5 lbs.
Dimensions (L x W x D)	113mm x 66mm x 57.3mm / 4.4" x 2.7" x 2.3"

Warranty & Service During Warranty

Power Products Unlimited, Inc. (PPU) warrants this product to be free from defects in workmanship and materials for three years from date of purchase by the end user. This warranty applies to the original purchaser and is void if the product has been altered, misused, damaged, neglected, or if repair is required because of normal wear and tear. This is the only warranty made by PPU. In no event will PPU, its affiliates, subsidiaries, related entities, or their respective directors, officers, or employees, be liable for any damages beyond repair or replacement as described above, including without limitation, indirect, incidental, or consequential damages. For service under warranty, return the product along with dated proof of purchase to the dealer where purchased or to Power Products. If returning directly to Power Products, follow these instructions:

Send to Power Products - Warranty Service Department, 2170 Brandon Trail, Alpharetta, GA 30004. Obtain proof of delivery for your shipment. Include with product, dated proof of purchase, your name and daytime telephone number, email address and return address (street address only; no P.O. boxes please).

Optional Accessories

Part Number	Description
LEVCA-M	Multi-directional dash mounting bracket with 4-hole AMPS mounting pattern.
LEVCA-MHD	Heavy duty floor mounting bracket with 4-hole AMPS mounting pattern.
TWC6M-VPA	Vehicle power adapter to connect LEVCA to a 12V or 24V outlet. Allows LEVCA to be used “plug-and-play.”

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